

VIII.—Description of a new English Amphipodous Crustacean.
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[Plate II.]

Cyproidia damnoniensis, n. sp.

In the fourth volume of the 'Proceedings of the Linnean Society of New South Wales' (1880), Mr. W. A. Haswell instituted the genus *Cyproidia* with two species (*C. ornata* and *C. lineata*), which he placed in the family Gammaridæ. In his 'Catalogue of Australian Crustacea' (1882) he has assigned the genus to a subfamily Cyproidides, defined as having the first two side-plates of the peræon very small, the next two very large, and the two following small. Of the genus itself he gives the following description:—

"Body broad. Pereion and pleon of equal length. Coxæ of gnathopoda very small. Coxæ of the first and second pairs of pereiopoda enormously developed and cemented together to form broad and deep lateral shields, concealing almost entirely the gnathopoda and pereiopoda, and extending forwards to the sides of the cephalon, and backwards as far as the posterior border of the sixth segment of the pereion, excavated posteriorly for the shallow coxæ of the third pereiopoda. Coxæ of the last two pairs of pereiopoda very small. Antennæ subequal, superior without an appendage. Mandibles with a palp. Maxillipedes unguiculate; both basos and ischium armed with small squamiform plates. Gnathopoda subcheliform. Pereiopoda slender. Posterior pleopoda biramous. Telson single." To this he appends a note:—"The coxæ of the third and fourth pereiopoda are not amalgamated, as erroneously stated in the original description, but that of the fourth pair is entirely rudimentary and covered by that of the third."

In the year 1882 the genus *Stegoplax* was founded by Prof. G. O. Sars, and assigned to his family Amphilochidæ, which coincides with the subfamily Amphilochinæ of Axel Boeck's classification. This genus, like *Cyproidia*, is characterized by the enormous development of the third and fourth pairs of side-plates in the peræon and the rudimentary structure of the first and second pairs; to which characters are added the narrow linear form of the first or basal joint in the third and fourth peræopods. The mandibles are described by Professor Sars as having a tolerably large molar tubercle, but a minute palp.

It is, I think, tolerably obvious that the two genera *Cy-*

proidia and *Stegoplax* ought to be united, in which case, by priority of date, *Cyproidia* will take precedence. Whether the peculiar development of the side-plates justifies the establishment of a new family or subfamily to receive the genus may be for the present left open to consideration. The general aspect of the animals recalls the *Stenothoinæ*, but the maxillipeds exclude them from that group, while there is nothing in the characteristics of the *Amphilochinæ* to make their admission into that group impossible. The cementing together of the third and fourth side-plates, and the covering up of the sixth by the fifth, of which Mr. Haswell speaks, do not appear to be characters of the European species. The English species, unlike that described by Prof. Sars, has the first joint of the fourth pereopod dilated.

The species now to be described I received, along with some very prettily mounted Copepoda, from Mr. C. W. Parker, of Warren Cottage, Starcross, in Devonshire. In answer to my inquiry, Mr. Parker said that he collected the specimens at low tide at Straight Point, and that my friend the Rev. A. M. Norman, to whom he had also sent specimens, promptly recognized them as the fellows of one which he had himself previously found, but which was not yet described.

The eyes are small, round, red, with about twenty components. The rostrum is small.

The upper antennæ have a stout peduncle, the first joint as long as the other two united, each joint successively being thinner as well as shorter than the preceding. Of the flagellum the first joint is stout, fringed below with seven long, divergent, not tapering, setæ; of the three remaining joints the third is the longest and thinnest, prettily coloured with purple. The secondary flagellum is minute, one-jointed.

In the much slenderer lower antennæ the fourth and fifth joints of the peduncle are nearly equal in length; the flagellum consists of four tapering joints.

The upper lip is incised at the extremity, one lobe being larger than the other.

In both mandibles the molar tubercle is strongly developed, with sinuous rows of minute sharp teeth. The spine-row consists of six curved spines. The cutting-edge is divided into eight or nine unequal irregular teeth, minute but sharp. In one mandible, but, I think, not in the other, there is a secondary plate, also sharply toothed. The palp is small, three-jointed, so delicately transparent as to be difficult to see.

The first maxillæ are slender, having the outer plate topped with some eight spines, the two-jointed palp with four. The inner plate has not come under my notice.

The second maxillæ are also slender, the outer plate a little overtopping the inner, each being surmounted with three or four spines.

In the maxillipeds the inner plates are elongate, with incised, not sloping, distal margins; the outer plates, of somewhat oval shape, do not reach to the end of the second joint of the palp. They have a relatively large apical spine, and along the upper part of the inner margin excessively fine spines. The third joint of the palp is somewhat longer than the first or second, with an inner lobe at the base of the finger. The finger is well developed, curved.

Among the pereon segments the second is narrower than any of the others.

The two gnathopods are nearly alike in structure, except as to the hands. That of the first gnathopod narrows distally, has no distinct palm, and carries spines or hairs on the palm-margin. In one specimen there were two small groups, in another four spines spaced at equal intervals along the margin. In the second gnathopod the hand widens towards the palm, which is defined by a broad tooth-like process in which are inserted two relatively strong spines, between which the finger closes down. The margin of the palm is convex. In both hands the strong curved finger has on the concave margin three little teeth followed by a larger one, after which comes the sharp-pointed nail.

The side plates of the first three peræopods are neatly fitted together, forming almost an oval, truncate on the upper side. Of the three, the side-plate of the second peræopod is much the largest, with a convex front and an excavated hinder margin, the excavation being filled in by the small plate of the third peræopod.

The first, second, and third peræopods are similar in structure, with long and slender first joints; the third joints a little dilated, more so proximally than distally; the fifth joints a little longer than the fourth; the fingers fairly strong, curved. In the third peræopod, however, the four last joints are all respectively a good deal shorter than those in the first peræopod. The fourth peræopod has the first joint winged with a dilatation so transparent as easily to escape notice, except in a good light. It is shorter than the first joint of the preceding leg. In the fifth peræopod the dilated first joint has a sinuous lower margin. It may be roughly regarded as quadrangular, but the sides are not straight and the lower part is rather broader than the upper.

The three first segments of the pleon are longer than any of those of the pereon except the fifth. They carry pleopoda

of no great strength. The third pleon segment is produced backwards in a rounded lobe formed by the hinder and lower margins. The three following segments are very small, carrying slender uropods, decreasing in size from the first to the third pair. In all the rami are minutely serrate. In the first pair the peduncle is long, but in the third it is very short.

The huge boat-shaped telson reaches as far back as the tip of the shorter branch of the third pair of uropods.

The colour in the mounted specimens was a beautiful red in some parts and purple in others; the size, a tenth of an inch, agrees with the diminutive proportions of the other species of this curious genus.

EXPLANATION OF PLATE II.

Full figure, side view of specimen less than $\frac{1}{10}$ inch in length. Antennæ and *gn.* 1 A from another specimen, the remaining figures from a third (dissected) specimen, drawn under the $\frac{1}{4}$ -inch power, eyepieces A and B, of Beck's popular microscope.

<i>a. s.</i> , flagellum of superior antenna.	<i>mc.</i> 2, second maxilla.
<i>a. i.</i> , antenna inferior.	<i>mxp.</i> , maxillipeds.
<i>l. s.</i> , labium superius.	<i>gn.</i> 1, first gnathopod.
<i>l. i.</i> , labium inferius.	<i>gn.</i> 2, second gnathopod.
<i>m. m.</i> , mandibles: figure on the left with cutting-edge and spine-row: figure on the right with cutting-edge and secondary plate, more highly magnified.	<i>pp.</i> 1, 3, 4, 5, first, third, fourth, and fifth pereopods.
<i>mc.</i> 1, first maxilla.	T, telson, with third and second uropods.
	<i>ur.</i> 1, first uropods.
	<i>n. s.</i> , natural size.

BIBLIOGRAPHICAL NOTICES.

British Oribatidæ. By ALBERT D. MICHAEL, F.L.S., F.R.M.S., &c.
Vol. I. 8vo. London: Printed for the Ray Society, 1884.

IN the Preface we are told "that this book is the record of work done in the scanty leisure of a very busy man." The author has for some five years turned his attention to the Oribatidæ, a family of Acarina commonly known as "Beetle-mites," in allusion to their usually convex beetle-like form and the hardness of their integuments. Little was known of them or of their earlier stages, for, like many other Mites, they undergo a series of changes after emerging from the egg, or, in other words, they pass through larval and nymphal stages to the imago, so that in the majority of cases "it would be impossible to identify the nymph with the adult except from knowledge." Thus it was necessary to watch the animals from the egg to maturity. "The creatures," says our author, "are minute, scarcely visible at all to the naked eye. When in the cage (or cell)